

ULTRA-WIDEBAND COMMUNICATIONS  
SYSTEM AND METHOD USING A DELAY  
HOPPED, CONTINUOUS NOISE  
TRANSMITTED REFERENCE

## ABSTRACT OF THE DISCLOSURE

An ultra-wideband (UWB) communications system combines the techniques of a transmitted reference (TR) and a multiple access scheme called delay hopping (DH). Combining these two techniques using UWB signaling using a continuous noise transmitted waveform avoids the synchronization difficulties associated with conventional approaches. This TR technique is combined with the DH multiple access technique to create a UWB communications scheme that has a greater multiple access capacity than does the UWB TR technique by itself.